APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/717,332	11/20/2000	John R. Josephson	OSU1159-074D	5020

8698	7590	01/13/2004

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EXAMINER
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ART UNIT	PAPER NUMBER
2121	6

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communicati n app ars on the cover sh t with the correspondence address* --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 October 2003_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-14,16-20,23-36,39,42,43,45-50,52-54,56,59-67,70-85 and 87-91_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-14,16-20,23-36,39,42,43,45-50,52-54,56,59-67,70-85 and 87-91_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

　　a) ☐ The translation of the foreign language provisional application has been received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

1.   This Office Action is in response to an AMENDMENT entered October 2, 2003

for the patent application 09/717,332 filed on November 20, 2000.

2.   The First Office Action of May 30, 2003 is fully incorporated into this Final Office

Action by reference.

3.   The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light

of the supporting disclosure. *In re Morris,* 127 F.3d 1048, 1054-55, 44USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in

the claim are not read into the claim. *In re Prater,* 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The

Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in

meaning.

4.   Examiner's Opinion: With the extensive changing of the claims, the Examiner

has in turn adjusted the response, still using the cited prior art of Amado. Generalized

claims do no bring forth the details of the specification and the Examiner will use a

generic interpretation to justify prior art. The teachings of Amado, both explicit and

implicit are extensive. If-then-else evaluations are powerful; they convey selection,

discrimination (dominance), weighting, filtering, among other decision related criteria.

Status of Claims

5.   Claim 1-10, 12, 14, 18-19, 23-32, 36, 42-43, 45-46, 54, 56, 59-67, 70-81 and 87-89 are amended. Claims 15, 21-22, 37-38, 40-41, 44, 51, 55, 57-58, 68-69 and 86 are cancelled. Claims 1-14, 16-20, 23-36, 39, 42-43, 45-50, 52-54, 56, 59-67, 70-85, 87-91 are pending.

Response to Arguments

6.   To understand a specification that references drawings, it is axiomatic that drawings be available. With the submission of a full set of drawings, the drawing objection is withdrawn.

7.   The Oath/Declaration objection is withdrawn.

8.   The Specification objection is withdrawn.

9.   Under remarks on page 22 of the applicants response dated October 2, 2003, the listing of cancelled claims includes 51-54, and 64. From page 14 of the subject reference, claims 52-54 are active. On page 16 of the subject reference, claim 64 is active. Concerning the claims that are active, claims 52-53 are missing.

10.   The applicants response dated October 2, 2003 under the Remarks section makes reference in numerous subsection to the teachings of "Adamo." The Examiner has never referenced the teachings of "Adamo." In the spirit of compact prosecution, it is assumed that the applicants reference is indeed "Adamo", the inventor of U.S. Patent

5,701,400. Such references of the applicants document have been changes in the

quotations that follow.

11.   The Drawings objection is withdrawn.

12.   The claim rejections under 35 USC 112 are withdrawn.

13.   Applicant's arguments filed on October 2, 2003 related to Claims 1-14, 16-20, 23-

36, 39, 42-43, 45-50, 52-54, 56, 59-67, 70-85, 87-91 have been fully considered but are

not persuasive.

In reference to Applicant's argument:

The Examiner has rejected claims 1 -91 as being anticipated by Amado. It is the Examiner's position
Amado discloses a seeker for providing a plurality of candidates, a filter for selecting a subset of
candidates from a plurality of candidates, and a viewer for displaying a subset of candidates and enabling
narrowing of the subset of candidates. Applicant has amended claims 1, 18, 36, 54, 72, and 89 to indicate
that candidates according to the present invention are evaluated according to a plurality of evaluation
criteria before being passed to a filter. Applicant has further amended claims 1, 36, 72, and 89 to include
a filter that uses a form of dominance to exclude from a subset of candidates each candidate that is
inferior to any other candidate. Finally, Applicant has amended claims 1, 18, 54, 72, and 89 to include a
viewer that displays linked scatterplots of candidates.

Examiner's response:

        Paragraph 3 above applies. Amado at col 30, lines 57-67 and col 31, lines 1-45

including Fig. 2, provide for a test database (candidates that were evaluated), the filter

is a set of if-then-else test rules with dominance being performed by the "if" criteria such

that those candidates that do not satisfy such "if" considerations, are excluded. A

scatterplot is nothing more than plotting multiple values related to a particular entity.

Linking is merely including some data of plot A on plot B. Such features are provided in

standard graphic packages discussed by Amado, similar to those identified at col 2,

lines 13-19 and col 16, lines 57-65.

In reference to Applicant's argument:

With respect to claims 1, 18, 54, and 72, it is the Examiner's position that Amado teaches candidates by teaching a database with information retrieved from different sources. Col. 32, 11. 4-5. The Examiner further states that Amado teaches providing candidates by generating candidates using components from a device library. Col. 32, II. 18-31. Finally, the Examiner states that devices in a library equate to data in a database.

Examiner's response:

Paragraph 3 above applies. The term sources merely means that the data is not

identical, i.e. an identical source can mean identical data. There are many ways to

generate data. Certainly a library is a database.

In reference to Applicant's argument:

Applicant respectfully submits that the passages of Amado cited by the Examiner teach a database and analysis of data in the database to "generate diagnostics" related to the data. Amado teaches at Col. 32,11. 22-24 "[I]f ... the databases contain financial information and financial ratios, the logical tests at the second step described before will generate the diagnostics associated to those financial ratios." The logical tests are if then-else tests.

In contrast to the logical if-then-else tests for generating diagnostics as taught by Amado, the present invention obtains candidates by generating and evaluating them according to a plurality of evaluation criteria. On pg. 16, 11. 5-13 of the present application, the process for obtaining candidates by evaluating them according to a plurality of evaluation criteria is explained. In an example related to design of vehicles, an important aspect of performance may be the maximum vehicle weight. As suggested in this passage of the application, the total number of candidates generated may be 2,152,698 (representing all possible combinations of components for the vehicles). However, when the plurality of candidates is evaluated according to a specified evaluation criterion (e.g., maximum vehicle weight) the number of candidates remaining may be reduced significantly (e.g., to 1,796,025). In other words, candidates that fail to meet the evaluation criteria are eliminated and are not passed to the filter.

Applicant respectfully submits that claims 1, 18, 36, 54, 72, and 89 indicate clearly that candidates according to the present invention are evaluated according to a plurality of evaluation criteria and therefore, are not simply items from a database that are analyzed using if-then-else logic to generate new type of unrelated data as taught by Amado. Candidates are evaluated according to evaluation criteria before being passed to a filter. Applicant respectfully Submits that Adam's application of if-then-else tests to data in order to generate new diagnostic data does not relate in any way to candidates evaluated according to evaluation criteria, and therefore, does not anticipate independent claims 1, 18, 36, 54, 72, and 89.

Examiner's response:

Paragraph 3 above applies. For sure if-then-else test represent criteria and

generate a response...candidates. The details of the specification have not been

brought forth to the claims.

In reference to Applicant's argument:

With respect to claims 1, 36, 54, and 72, it is the Examiner's position that Amado teaches filtering based on the application of logical if-then-else tests to data from a database. Col. 32,11. 6-7. Applicant has amended claims 1, 36, 72, and 89 to include a filter that uses a form of dominance to exclude from a subset of candidates each candidate that is inferior to any other candidate. As indicated in Applicant's specification on pg. 8, 11. 14-18, a first candidate is superior to a second candidate if the attributes for every criterion of evaluation of the first candidate are greater or equal to the attributes for every criterion of evaluation of the second candidate and the attribute for at least one criterion of evaluation of the first candidate is strictly greater than the corresponding attribute for the second candidate.

In the vehicle design example, a designer may designate as criteria of evaluation the top speed and the gas mileage for each proposed candidate of a vehicle. A higher top speed and better gas mileage is considered a superior design. When filtering is applied to the evaluated candidates, a first candidate that has a top speed that is lower than the top speed of the second candidate and a gas mileage that is lower than the gas mileage of the second candidate is inferior (because the second candidate is better on every criterion of evaluation- i.e., the higher top speed and the higher gas mileage) and would be excluded from the subset of candidates. However, if the first candidate has a top speed that is higher than the top speed of the second candidate and a gas mileage that is lower than the gas mileage of the second candidate, then neither candidate is considered inferior to the other candidate and neither candidate would be excluded by the filter.

Examiner's response:

Paragraph 3 above applies. Amado at col 30, lines 57-67 and col 31, lines 1-45

including Fig. 2, provide for a test database (candidates that were evaluated), the filter

is a set of if-then-else test rules with dominance being performed by the "if" criteria such

that those candidates that do not satisfy such "if" considerations, are excluded. The

details of the specification have not been brought forth to the claims.

In reference to Applicant's argument:

Applicant has further amended claims 1, 18, 54, 72, and 89 to include a viewer that displays linked scatterplots. Linked scatterplots according to the present invention allow a user to view in a first scatterplot a plurality of candidates according to a first pair of criteria of evaluation. A plurality of candidates according to a second pair of criteria of evaluation may be displayed in a second scatterplot. That is, each scatterplot is a two dimensional display showing the alternatives with respect to two criteria. The scatterplots are linked so that when the user selects a subset of candidates in the first scatterplot, the same candidates in the second scatterplot are distinguished (e.g., by highlighting them in another color). The feature of linked scatterplots allows the user to select candidates with respect to any one or two criteria and see instantly how they fare with respect to the other criteria (e.g., gas mileage and top speed v. total weight and highway range). In other words, the user may consider various trade-offs in the choices he is considering. Applicant respectfully submits that the feature of linked scatterplots is neither disclosed nor suggested by Aaron and therefore, Amado cannot support the present rejections.

Examiner's response:

A scatterplot is nothing more than plotting multiple values related to a particular entity. Linking is merely including some data of plot A on plot B. Such features are provided in standard graphic packages discussed by Amado, similar to those identified at col 2, lines 13-19 and col 16, lines 57-65. The details of the specification have not been brought forth to the claims.

Claim Rejections - 35 USC § 102

14.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

15.   Claims 1-91 are rejected under 35 U.S.C. 102(e) as being anticipated by Amado (U.S. Patent 5,701,400, referred to as **Amado**).

Claims 1, 72

Amado anticipates a seeker for acquiring a plurality of candidates, each evaluated according to a plurality of evaluation criteria; (**Amado**, col 31, lines 14-21); a

filter for selecting a subset of evaluated candidates from said plurality of evaluated candidates, wherein said filter uses a form of dominance to exclude from said subset of evaluated candidates each candidate that is inferior to other candidate; (**Amado**, col 31, lines 22-26; Examiner's Note (EN); filtering is selection which can be done by classifying, clustering, rules, etc.); and a viewer for displaying said subset of evaluated candidates in a plurality of linked scatterplots and enabling narrowing of said subset of evaluated candidates (**Amado**, col 2, lines 13-19; col 16, lines 57-65).

Claims 2, 23

Amado anticipates seeker provides said plurality of candidates by retrieving a plurality of evaluated candidates from a database (**Amado**, col 31, lines 22-26).

Claims 3, 24, 39, 56, 75

Amado anticipates seeker provides said plurality of candidates by generating a plurality of evaluated candidates using combinations of components from a device library (**Amado**, col 31, lines 22-26; EN: Devices in a library equates to data stored in a database; sets of items are combinations).

Claims 4, 25, 76

Amado anticipates device library further comprises encoded components, component behaviors, and composition schemes (**Amado**, col 32, lines 18-31; EN: Data, "...diagnosis, planning, design and process control..." are equivalent; all data in a computer implementation is encoded).

Claims 5, 26, 77

Amado anticipates components are encoded using a functional and

compositional modeling language (**Amado**, col 10, lines 14-34; EN: The software used

by KADS Tool which is a high end CASE tool is functional and compositional as

represented by the KADS Tool models; software is encoding).

Claims 6, 27, 42, 59, 78

Amado anticipates seeker enables composition of a device without reference to a

specific environment (**Amado**, col 31, lines 14-26; EN: test processing engine runs

independent of the database).

Claims 7, 28, 43, 60, 79

Amado anticipates seeker enables composition of a deployed device

environment (**Amado**, col 31, lines 14-26; EN: test processing engine runs independent

of the database)

Claims 8, 29, 61, 80

Amado anticipates seeker provides evaluated candidates using a functional and

compositional modeling language simulator (**Amado**, col 10, lines 14-34; ; col 32, lines

4-5; EN: Models provide simulation).

Claims 9, 30, 45, 62, 81

Amado anticipates functional and compositional modeling language simulator is

adapted to answer questions about evaluated candidates (**Amado**, col 10, lines 14-54).

Claims 10, 31, 46, 63

Amado anticipates seeker uses distributed computation to evaluate said plurality

of candidates (**Amado**, Fig.1).

Claims 11, 32, 47, 65, 82

Amado anticipates filter is selected from the group consisting of classical

dominance filter, strict dominance. filter, superstrict dominance filter, selective

superstrict dominance filter, discernible difference dominance filter, two-pass tolerance

filter, and onionskin filter (**Amado**, col 15, lines 17-53; EN: Rough sets classify and

hence are equivalent to filtering; Applicant's various filters are the equivalent of

classification rules for classifying into two or more categories wherein a specific filter

name is not novel).

Claims 12, 33, 48, 66, 83

Amado anticipates said filter uses a tolerance dominance method to select said

subset of evaluated candidates (**Amado**, col 15, lines 17-53; EN: Rough sets classify

and hence are equivalent to filtering; Applicant's various filters are the equivalent of

classification rules for classifying into two or more categories wherein a specific filter

name is not novel).

Claims 13, 20, 49, 67, 84

Amado anticipates viewer is adapted to use a multi-attribute display (**Amado**, col

2, lines 13-19).

Claims 14, 50, 85

Amado anticipates linked scatterplots in said viewer are trade-offs of said subset

of evaluated candidates (**Amado**, col 16, lines 57-65; EN: DVT has a full graphics

package which would include x-y plots and scatterplots; linked plots merely means the

use of common data).

Claims 16, 34, 52, 70, 87

Amado anticipates plurality of candidates is designs for hybrid electric vehicles

(**Amado**, col 17, lines 40-59; col 32, lines 4-18; col 31, lines 37-42; EN: Amado has a

broad application and there isn't any feature in the design for hybrid electric vehicles

that is novel to Amado).

Claims 17, 35, 53, 71, 88

Amado anticipates said plurality of candidates is selected from the group

consisting of candidates for a design task, candidates for planning. task, candidates for

a purchasing task, and candidates for alternative hypotheses (**Amado**, col 17, lines 40-

59).

Claim 18

Amado anticipates a seeker for acquiring a plurality of candidates composed

according to specifications and constraints and evaluated according to a plurality of

evaluation criteria (**Amado**, col 31, lines 14-26); and a filter for selecting a subset of

candidates from said plurality of candidates (**Amado**, col 31, lines 22-26); and a viewer

for displaying said subset of candidates in a plurality of linker scatterplots and exploring

said subset of candidates (**Amado**, col 2, lines 13-19; col 16, lines 57-65; col 31, lines 38-42).

Claim 19

Amado anticipates a viewer enables narrowing of said subset of candidates (**Amado**, col 2, lines 13-19).

Claim 36

Amado anticipates a seeker for providing a plurality of candidates composed using a functional and compositional modeling language and evaluated according to a plurality of evaluation criteria (**Amado**, col 10, lines 14-34; col 31, lines 14-26; EN: The software used by KADS Tool which is a high end CASE tool is functional and compositional as represented by the KADS Tool models; software is encoding); filter for selecting a subset of candidates from said plurality of candidates, wherein said filter uses a form of dominance to exclude from said subset of candidates each candidate that is inferior to any other candidate (**Amado**, col 31, lines 22-26); and a viewer for displaying said subset of candidates (**Amado**, col 2, lines 13-19).

Claim 54

Amado anticipates providing a plurality of candidates composed using a functional and compositional modeling language and evaluated according to a plurality of evaluation criteria (**Amado**, col 10, lines 14-34; col 31, lines 14-26; EN: The software used by KADS Tool which is a high end CASE tool is functional and compositional as represented by the KADS Tool models; software is encoding); displaying said subset of candidates in a plurality of linked scatterplots for comparison

of subsets for further (**Amado**, col 2, lines 13-19; col 16, lines 57-65; col 31, lines 38-42;

EN: scatterplots are merely generic graphs with a multitude of values represented as

dots; linked scatterplots merely mean that some of the data of plot A is contained in Plot

B).

Claim 64

Amado anticipates a filter for selecting said subset of candidates from said

plurality of candidates (**Amado**, col 32, lines 6-7).

Claim 73

Amado anticipates providing a plurality of candidates includes the step of

retrieving said plurality of candidates from a database (**Amado**, col 32, lines 4-5).

Claim 74

Amado anticipates said plurality of candidates using a seeker (**Amado**, col 32,

lines 4-5).

Claim 89

Amado anticipates providing a plurality of candidates composed using a

functional and compositional modeling language and evaluated according to a plurality

of evaluation criteria (**Amado**, col 10, lines 14-34; col 31, lines 14-26; EN: The

software used by KADS Tool which is a high end CASE tool is functional and

compositional as represented by the KADS Tool models; software is encoding); filtering

said plurality of candidates to create a subset of candidates wherein said filtering used a

form of dominance criteria to exclude from said subset of candidates each candidate

that is inferior to any other candidate (**Amado**, col 31, lines 14-26); displaying on a

screen linked scatterplots that show a distribution of candidates along each criteria for a

decision problem (**Amado**, col 2, lines 13-19; EN: scatterplots are merely generic

graphs with a multitude of values represented as dots; linked scatterplots merely mean

that some of the data of plot A is contained in Plot B; scatterplots axiomatically show

candidate distribution related to the plot assembled).

Claim 90

Amado anticipates comprising the step of determining which candidates in any

one of the criteria have been selected (**Amado**, col 31, lines 38-42).

Claim 91

Amado anticipates the step of performing intersections of different selections

along different criteria (**Amado**, col 31, lines 38-42 EN: Intersections relate to

commonality or synchronization among classifications or clustering).

Conclusion

16.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

17.   Claims 1-14, 16-20, 23-36, 39, 42-43, 45-50, 52-54, 56, 59-67, 70-85, 87-91 are

rejected.

Correspondence Information

18.   Any inquiry concerning this information or related to the subject disclosure

should be directed to the Examiner, Joseph P. Hirl, whose telephone number is

(703) 305-1668. The Examiner can be reached on Monday – Thursday from

6:00 a.m. to 4:30 p.m.

        If attempts to reach the Examiner by telephone are unsuccessful, the

Examiner's supervisor, Anil Khatri can be reached at (703) 305-0282.

Any response to this office action should be mailed to:

        Commissioner of Patents and Trademarks,

        Washington, D. C. 20231;

or faxed to:

        (703) 746-7239 (for formal communications intended for entry);

or faxed to:

        (703) 746-7290 (for informal or draft communications with notation of

"Proposed" or "Draft" for the desk of the Examiner).

Hand-delivered responses should be brought to:

Receptionist, Crystal Park II

2121 Crystal Drive,

Arlington, Virginia.

Joseph P. Hirl

January 8, 2004

RAMESH PATEL
PRIMARY EXAMINER

For Anil Khatri